

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application: **(AS ON AMENDED SHEET(S) ANNEXED TO IPRP)**

1. (original) A method of managing a data buffer (120) comprising a queue of consecutive segments of data packets in a base station system (100) of a mobile communications system (1), comprising the steps of:

- said base station system (100) comparing a size ( $S(k)$ ) of a data packet segment ( $P(k)$ ) with a size ( $S(k+1)$ ) of a next consecutive data packet segment ( $P(k+1)$ ) in said buffer (120);
- said base station system (100) identifying said complete data packet based on said comparison; and
- said base station system (100) discarding said identified complete data packet from said buffer (120).

2. (original) The method according to claim 1, wherein said identifying step comprises the steps of:

- identifying said next data packet segment ( $P(k+1)$ ) as a first data packet segment ( $P(\text{FIRST})$ ) of said complete data, packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) is smaller than said size ( $S(k+1)$ ) of said next data packet segment ( $S(k+1)$ ); and
- associating said identified first data packet segment ( $P(\text{FIRST})$ ) with a first

segment identifier (FIRST).

3. (original) The method according to claim 1, wherein said identifying step comprises the steps of:

- identifying said next data packet segment ( $P(k+1)$ ) as a last data packet segment ( $P(\text{LAST})$ ) of said complete data packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) differs from said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ); and
- associating said identified last data packet segment ( $P(\text{LAST})$ ) with a last segment identifier (LAST).

4. (currently amended) The method according to claim 2 ~~and 3~~, wherein said discarding step comprises the step of discarding said data, packet segment ( $P(\text{FIRST})$ ) associated with said first segment identifier (FIRST), said data packet segment ( $P(\text{LAST})$ ) associated with said last segment identifier (LAST) and any intermediate data packet segments between said data packet segment ( $P(\text{FIRST})$ ) associated with said first segment identifier (FIRST) and said data packet segment ( $P(\text{LAST})$ ) associated with said last segment identifier (LAST) in said buffer (120).

5. (original) A system (130) for managing a data buffer (120) comprising a queue of consecutive segments of data packets in a base station system (100) of a mobile communications system (1), comprising:

- means (146) for comparing a size ( $S(k)$ ) of a data packet segment ( $P(k)$ ) with a size ( $S(k+1)$ ) of a next consecutive data packet segment ( $P(k+1)$ ) in said buffer (120);
- means (140) for identifying said complete data packet based on said comparison; and
- means (136) for discarding said identified complete data packet from said buffer (120).

6. (original) The system according to claim 5, wherein said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a first data packet ( $P(\text{FIRST})$ ) of said complete data packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) is smaller than said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ), said system (130) further comprises means (142) for associating said identified first data packet segment ( $P(\text{FIRST})$ ) with a first segment identifier ( $\text{FIRST}$ ).

7. (original) The system according to claim 5, wherein said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a last data packet segment ( $P(\text{LAST})$ ) of said complete data packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) differs from said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ), said system (130) further comprises means (142) for associating said identified last data packet segment ( $P(\text{LAST})$ ) with a last segment

identifier (LAST).

8. (currently amended) The system according to claim 6 ~~and 7~~, wherein said discarding means (136) is adapted for discarding said data packet segment (P(FIRST)) associated with said first segment identifier (FIRST), said data packet segment (P(LAST)) associated with said last segment identifier (LAST) and any intermediate data packet segments between said data packet segment (P(FIRST)) associated with said first segment identifier (FIRST) and said data packet segment (P(LAST)) associated with said last segment identifier (LAST) in said buffer (120).

9. (currently amended) A base station network node of a base station system (100) in a mobile communications system (1) comprising:

- a data buffer (120) comprising a queue of consecutive segments of data packets; and
- a system (130) for managing said data buffer (120) according to ~~any of the claims 5 to 8~~ claim 5.

10. (original) A method of enabling identification of a complete data packet in a data buffer (120) comprising a queue of consecutive data packet segments, comprising the steps of:

- comparing a size (S(k)) of a data packet segment (P(k)) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+ 1)) in said buffer (120); and

- identifying said complete data packet based on said comparison.

11. (original) The method according to claim 10, further comprising the step of providing a segment counter (k) associated with a data packet segment (P(k)) in said buffer (120).

12. (original) The method according to claim 11, further comprising the steps of:

- comparing a size (S(k)) of said data packet segment (P(k)) associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+1)) in said buffer (120);

- identifying said next data packet segment (P(k+ 1)) as a first data packet segment (P(FIRST)) of said complete data packet in said buffer (120) if said size (S(k)) of said data packet segment (P(k)) associated with said counter (k) is smaller than said size (S(k+ 1)) of said next data packet segment (P(k+ 1)).

13. (original) The method according to claim 11, further comprising the steps of:

- (a) comparing a size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+ 1)) in said buffer (120); and

- (b) associating said counter (k) with said next data packet segment (P(k+ 1)) if said size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) is equal to or larger than said size (S(k+ 1)) of said next data packet segment (P(k+ 1)); and

- repeating both said comparison step (a) and said associating step (b) until said size (S(k)) of the data packet (P(k)) currently associated with said counter (k) is smaller than said size (S(k+ 1)) of said next data packet segment (P(k+ 1)), whereby said next data packet segment (P(k+ 1)) is identified as a first data packet segment (P(FIRST)) of said complete data packet in said buffer (120).

14. (currently amended) The method according to claim 12~~or 13~~, further comprising the step of associating said segment counter (k) with said first data packet segment (P(FIRST)) of said complete data packet.

15. (original) The method according to claim 14, further comprising the steps of:

- comparing a size (S(k)) of said data packet segment (P(k)) associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+1)) in said buffer (120); and

- identifying said next data packet segment (P(k+ 1)) as a last data packet segment (P(LAST)) of said complete data packet in said buffer (120) if said size (S(k)) of said data packet segment (P(k)) associated with said counter (k) differs from said size (S(k+ 1)) of said next data packet segment (P(k+ 1)).

16. (original) The method according to claim 15, wherein said complete data packet is identified as comprising said first data packet segment (P(FIRST)) of said complete data

packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120).

17. (original) The method according to claim 15, further comprising the steps of:

- determining a total size of said first data packet segment (P(FIRST)) of said complete data packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120);
- comparing said total size with a minimum size threshold; and
- identifying said complete data packet as comprising said first data packet segment (P(FIRST)) of said complete data packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120) if said total size is larger than said minimum size threshold.

18. (original) The method according to claim 11, further comprising the steps of:

- comparing a size (S(k)) of said data packet segment (P(k)) associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+1)) in said buffer (120); and
- identifying said next data packet segment (P(k+ 1)) as a last data packet

segment (P(LAST)) of said complete data packet in said buffer (120) if said size (S(k)) of said data packet segment (P(k)) associated with said counter (k) differs from said size (S(k+ 1)) of said next data packet segment (P(k+ 1)).

19. (original) The method according to claim 11, further comprising the steps of:

(c) comparing a size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+ 1)) in said buffer (120);

(d) associating said counter (k) with said next data packet segment (P(k+ 1)) if said size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) is equal to said size (S(k)) of said next data packet segment (P(k+ 1)); and

- repeating both said comparison step (c) and said associating step (d) until said size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) differs from said size (S(k+ 1)) of said next data packet segment (P(k+ 1)), whereby said next data packet segment (P(k+ 1)) is identified as a last data packet segment (P(LAST)) of said complete data packet in said buffer (120).

20. (original) A system (140) for enabling identification of a complete data packet in a data buffer (120) comprising a queue of consecutive data packet segments, comprising:

- means (146) for comparing a size (S(k)) of a data packet segment (P(k)) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+ 1)) in said buffer (120); and



- means (140) for identifying said complete data packet based on said comparison.

21. (original) The system according to claim 20, comprising means (142) for associating a segment counter (k) with a data packet segment (P(k)) in said buffer (120).

22. (original) The system according to claim 21, wherein said comparison means (146) is adapted for comparing a size (S(k)) of said data packet segment (P(k)) associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+ 1)) in said buffer (120), wherein said identifying means (140) is adapted for identifying said next data packet segment (P(k+ 1)) as a first data packet segment (P(FIRST)) of said complete data packet in said buffer (120) if said size (S(k)) of said data packet segment (P(k)) associated with said counter (k) is smaller than said size (S(k+ 1)) of said next data packet segment (P(k+1)).

23. (original) The system according to claim 21, wherein said comparison means (146) is adapted for comparing a size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment (P(k+1)) in said buffer (120), wherein said associating means (142) is adapted for associating said counter (k) with said next data packet segment (P(k+ 1)) if said size (S(k)) of the data packet segment (P(k)) currently associated with said counter (k) is equal to or larger than said size (S(k+ 1)) of said next data packet segment (P(k+ 1)),

said comparison means (146) is adapted for repeating said size comparison and said associating means (142) is adapted for repeating said counter association until said size ( $S(k)$ ) of the data packet segment ( $P(k)$ ) currently associated with said counter ( $k$ ) is smaller than said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ), whereby said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a first data packet segment ( $P(\text{FIRST})$ ) of said complete data packet in said buffer (120).

24. (currently amended) The system according to claim 22 ~~or 23~~, wherein said associating means (142) is adapted for associating said segment counter ( $k$ ) with said first data packet segment ( $P(\text{FIRST})$ ) of said complete data packet.

25. (original) The system according to claim 24, wherein said comparison means (146) is adapted for comparing a size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) associated with said counter ( $k$ ) with a size ( $S(k+1)$ ) of a next consecutive data packet segment ( $P(k+1)$ ) in said buffer (120), wherein said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a last data packet segment ( $P(\text{LAST})$ ) of said complete data packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) associated with said counter ( $k$ ) differs from said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ).

26. (original) The system according to claim 25, wherein said identifying means (140) is

adapted for identifying said complete data packet as comprising said first data packet segment (P(FIRST)) of said complete data packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120).

27. (original) The system according to claim 25, further comprising means (142) for determining a total size of said first data packet segment (P(FIRST)) of said complete data packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120), said comparison means (146) is adapted for comparing said total size with a minimum size threshold, and said identifying means (140) is adapted for identifying said complete data packet as comprising said first data packet segment (P(FIRST)) of said complete data packet, said last data packet segment (P(LAST)) of said complete data packet and any intermediate data packet segments between said first (P(FIRST)) and last (P(LAST)) data packet segment of said complete data packet in said buffer (120) if said total size is larger than said minimum size threshold.

28. (original) The system according to claim 21, wherein said comparison means (146) is adapted for comparing a size (S(k)) of said data packet segment (P(k)) associated with said counter (k) with a size (S(k+ 1)) of a next consecutive data packet segment

( $P(k+1)$ ) in said buffer (120), wherein said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a last data packet segment ( $P(\text{LAST})$ ) of said complete data packet in said buffer (120) if said size ( $S(k)$ ) of said data packet segment ( $P(k)$ ) associated with said counter ( $k$ ) differs from said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ).

29. (original) The system according to claim 21, wherein said comparison means (146) is adapted for comparing a size ( $S(k)$ ) of the data packet segment ( $P(k)$ ) currently associated with said counter ( $k$ ) with a size ( $S(k+1)$ ) of a next consecutive data packet segment ( $P(k+1)$ ) in said buffer (120), wherein said associating means (142) is adapted for associating said counter ( $k$ ) with said next data packet segment ( $P(k+1)$ ) if said size ( $S(k)$ ) of the data packet segment ( $P(k)$ ) currently associated with said counter ( $k$ ) is equal to said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ), said comparison means (146) is adapted for repeating said size comparison and said associating means (142) is adapted for repeating said counter associating until said size ( $S(k)$ ) of the data packet segment ( $P(k)$ ) currently associated with said counter ( $k$ ) differs from said size ( $S(k+1)$ ) of said next data packet segment ( $P(k+1)$ ), whereby said identifying means (140) is adapted for identifying said next data packet segment ( $P(k+1)$ ) as a last data packet segment ( $P(\text{LAST})$ ) of said complete data packet in said buffer (120).